

Tennessee Pollution Prevention Partnership Success Story



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Phase Out Chlorinated Solvents

The Member

Bridgestone/Firestone North American Tire, LLC, (BFNT) Warren County plant began manufacturing truck and bus tires in 1990. The plant employs approximately 1025 team members involved in producing thousands of truck and bus tires each day. BFNT company-wide has been dedicated to environmental excellence and continuous improvement as demonstrated by all of our North American tire plants achieving ISO 14001 certification by the year 2000. BFNT Warren is also a Charter Member of the EPA National Environmental Performance Track. We continue to look for opportunities to eliminate and reduce waste, save natural resources, and prevent pollution.



The Story

The Warren County plant is one of the most automated tire manufacturing plants in the United States. The hundreds of motors, conveyors, presses and other equipment require a significant maintenance effort. The maintenance staff at Warren consists of 87 contractors, 78 engineering technicians and 13 staff for a total of 178. This is 17% of all employees at Warren. Maintenance chemicals with chlorinated solvents are used in situations where strong cleaning properties are required along with nonflammable and nonconductive properties. Trichloroethylene was used to clean large electric motors in place instead of sending the motors offsite. Trichloroethylene was also used to clean materials for welding or grinding. Methylene chloride

was used to soften gaskets for easier removal. In 2001, we used 199 pounds of chlorinated solvents for maintenance applications. By finding substitutes and changing operating practices, we have totally eliminated the use of chlorinated solvents. 1-Bromopropane is now used instead of Trichloroethylene for cleaning electric motors and cleaning welding materials. Cleaners with hi-flash solvents are used for most other maintenance cleaning. Through the environmental audit program, we have removed all chlorinated solvents from maintenance for proper disposal. We have not yet found a desired substitute for the Methylene chloride gasket remover. The non-chlorinated solvent cleaners or lubricants and a putty knife must be used now to remove gaskets.

The Success

BFNT Warren County committed to phase out the use of Trichloroethylene and Methylene chloride by February 29, 2004. 1-Bromopropane is just as effective as Trichloroethylene for cleaning electric motors. The high flash solvents and lubricants also perform as well as the replaced chlorinated solvents for maintenance cleaning. We could not find a "same as" replacement for the Methylene chloride gasket remover, but the existing product produced noxious fumes and was rarely used.

The Pollution Prevented

In 2001, Warren County used 199 pounds of chlorinated solvents for maintenance cleaning compared to 0 pounds in 2003, a 100% reduction. By eliminating chlorinated solvent usage, we eliminate the possible environmental contamination by Trichloroethylene and Methylene chloride and eliminate any possible adverse health effects to our employees.

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TENNESSEE POLLUTION PREVENTION PARTNERSHIP
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